

Assessing the potential use of abandoned mining pool as an alternative resource of raw water supply

ABSTRACT

The water crisis in the state of Selangor has prompted the state water authority to use water from abandoned mining pools as an alternative resource of raw water supply. In this study, the potential use of the mining pool water has been assessed to evaluate its safe use for potable water consumption, which is the source of raw water to be supplied to water treatment plants. Assessments were made between sampling sites that include abandoned mining pools, active sand mining pools, and the receiving streams (two tributaries and the main river, Selangor River) within Bestari Jaya catchment, Selangor River Basin. As anticipated, some concentrations of metals were found in the active mining pool and in its discharge, such as iron, manganese, lead, copper and zinc. However, the trace elements were found at very low concentrations or below detection limits in the abandoned mining pools and in the rivers. It was found that generally the quality of the water in the rivers (upstream of water intake of the water treatment plants) was well below the recommended guideline limits set out by the Malaysia Ministry of Health for untreated raw water, and therefore is safe for potable water use.

Keyword: Alternative resource; Hybrid-off river augmentation system (HORAS); Mine water; Mining pool; Water supply